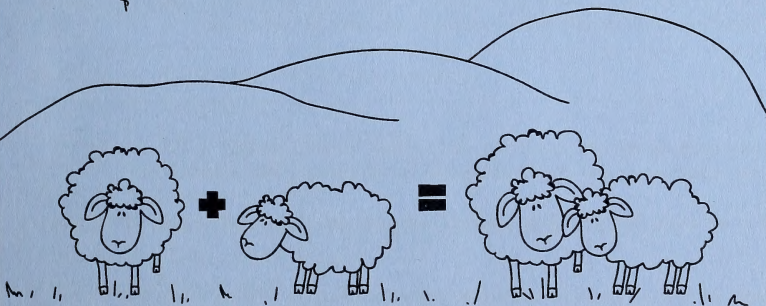
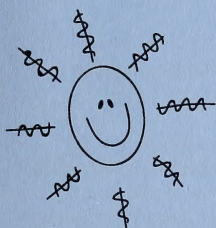




GRADE THREE MATHEMATICS: MODULE 1

ADDITION AND SUBTRACTION

Home Instructor's Guide: Days 1–9
and
Assignment Booklet 1A



Learning
Technologies
Branch

Alberta
LEARNING

Grade Three Mathematics
 Module 1: Addition and Subtraction
 Home Instructor's Guide: Days 1–9 and Assignment Booklet 1A
 Learning Technologies Branch
 ISBN 0-7741-2219-6

This document is intended for	
Students	✓
Teachers	✓
Administrators	
Home Instructors	✓
General Public	
Other	



You may find the following Internet sites useful:

- Alberta Learning, <http://www.learning.gov.ab.ca>
- Learning Technologies Branch, <http://www.learning.gov.ab.ca/ltb>
- Learning Resources Centre, <http://www.lrc.learning.gov.ab.ca>

The use of the Internet is optional. Exploring the electronic information superhighway can be educational and entertaining. However, be aware that these computer networks are not censored. Students may unintentionally or purposely find articles on the Internet that may be offensive or inappropriate. As well, the sources of information are not always cited and the content may not be accurate. Therefore, students may wish to confirm facts with a second source.

ALL RIGHTS RESERVED

Copyright © 2002, the Crown in Right of Alberta, as represented by the Minister of Learning, Alberta Learning, 10155 – 102 Street, Edmonton, Alberta T5J 4L5. All rights reserved. Additional copies may be obtained from the Learning Resources Centre.

No part of this courseware may be reproduced in any form, including photocopying (unless otherwise indicated), without the written permission of Alberta Learning.

Every effort has been made both to provide proper acknowledgement of the original source and to comply with copyright law. If cases are identified where this effort has been unsuccessful, please notify Alberta Learning so that appropriate corrective action can be taken.

IT IS STRICTLY PROHIBITED TO COPY ANY PART OF THESE MATERIALS UNDER THE TERMS OF A LICENCE FROM A COLLECTIVE OR A LICENSING BODY.

It is very important that you read the information in this guide before you begin instructing the student.

OVERVIEW OF THE GRADE THREE MATHEMATICS COURSE

PROGRAM RATIONALE AND PHILOSOPHY

The *Western Canadian Protocol* mathematics program, mandated by the Alberta Government, outlines the beliefs, goals, and rationale for this Grade Three Mathematics course. Students are encouraged to make mathematical discoveries through the use of concrete materials, discussion, and a wide variety of experiences. Emphasis is on the student's understanding of mathematical concepts, rather than memorization of rules and number facts. It is expected that the student will be able to apply mathematical concepts to problem-solving situations. Students must also be able to communicate mathematical thinking orally and in writing.

The mathematics course is organized into four main strands:

- Number
- Patterns and Relations
- Space and Shape
- Statistics and Probability

As the student works through the strands, mathematical processes, such as communication, problem solving, reasoning, technology, visualization, estimation, and mental mathematics are incorporated.

For more information on the mathematics curriculum, you may wish to visit the Alberta Learning website, http://www.learning.gov.ab.ca/k_12/curriculum/bySubject/math. Once there, select *Mathematics Program of Studies, Kindergarten to Grade 6*.

INTRODUCTION TO THE GRADE THREE MATHEMATICS COURSE

The Grade Three Mathematics course contains nine modules. They are as follows:

- Module 1: Addition and Subtraction
- Module 2: Numbers Count
- Module 3: Patterns Everywhere
- Module 4: Multiplication and Division
- Module 5: Measurement
- Module 6: Addition and Subtraction of Large Numbers
- Module 7: Data and Chance
- Module 8: Space and Shape
- Module 9: Money and More

COMPONENTS OF THE GRADE THREE COURSE

Each module contains a Student Module Booklet, two Home Instructor's Guides, and two Assignment Booklets.

STUDENT MODULE BOOKLET

There are nine Student Module Booklets in the mathematics course. The Student Module Booklet contains guided activities for each day's math lessons. The student must work through the lessons, doing all required manipulative, oral, and written activities. The student writes the answers in the Student Module Booklet. You will check the student's answers in Modules 1 to 5 using the answer key found in the Home Instructor's Guide. In Module 6, the student will begin to mark his or her own work using the answer key in the Appendix. Extension activities and challenge activities occasionally appear in the Student Module Booklet. They are optional and may be completed for extra practice or enrichment.

A glossary for each module is included in the Appendix. You may find these definitions helpful when explaining concepts to your student or when you and your student are reviewing.

HOME INSTRUCTOR'S GUIDE

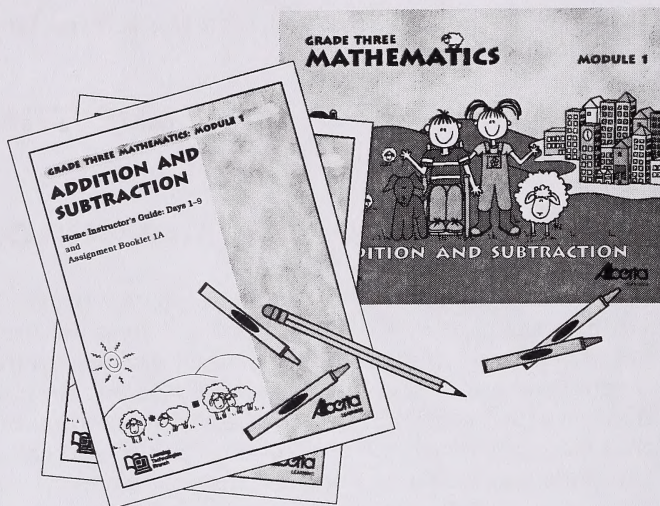
The Home Instructor Guide is to help you teach the student and should be read before beginning the daily activities. This guide is attached to the Assignment Booklet and can be removed and placed in a binder for easy reference.

ASSIGNMENT BOOKLET

Two Assignment Booklets accompany each Student Module Booklet—one for Days 1 to 9 and another for Days 10 to 18. These booklets are submitted to the distance learning teacher on Days 9 and 18 for assessment and feedback about your student's progress.

There may not be an Assignment Booklet activity every day.

Be sure to complete the Home Instructor's Checklist at the end of each Assignment Booklet. Include any information you think may be helpful for the teacher to know about your student's progress.



IMPORTANT ELEMENTS OF THE MATHEMATICS COURSE

USING MANIPULATIVES

Manipulatives or concrete materials are very important to the math course. Manipulatives are often used to introduce new concepts. Working with hands-on materials gives the student a clearer understanding of math concepts. Some learning materials will be provided in the Appendix of each Student Module Booklet, but other materials must be purchased or gathered from your home. A list of materials that your student will need is provided later in this guide.

USING TECHNOLOGY

The ability to use technology is becoming increasingly important in society. Students need to know how to use calculators and computers to solve mathematical problems.

Calculators are very useful for performing long calculations and learning about number patterns and relationships. The student however, should not, rely on a calculator for all calculations. It is important that the student be able to recall basic number facts and understand the mathematical operations of addition, subtraction, multiplication, and division.

A computer can also be a useful tool. There are many software programs that may help a student develop mathematical skills or practise basic facts. There are also many sites on the Internet that provide math activities or information for you or your student. Software and website Internet addresses are suggested throughout the course. These activities are optional. Remember that website Internet addresses do change, so you may have to search on your own for appropriate sites.

PRACTICING NUMBER FACTS

Learning the basic number facts is an important goal in the Grade Three Mathematics course.

By the end of the year, your student must be able to recall these number facts:

- addition to 18 (that is, up to $9 + 9$)
- subtraction to 18 (that is, up to $18 - 9$)
- multiplication to 49 (that is, up to 7×7 on a multiplication grid)
- division to 49 (that is, up to $49 \div 7$)

To help your student master these facts, timed practice pages are found in each module. Your student may need additional practice to memorize these facts. You may need to schedule daily practice using flash cards, games, other timed drills, manipulatives, or computer software programs. Ideas for extra practice will appear in Extension Activities.

JOURNAL WRITING

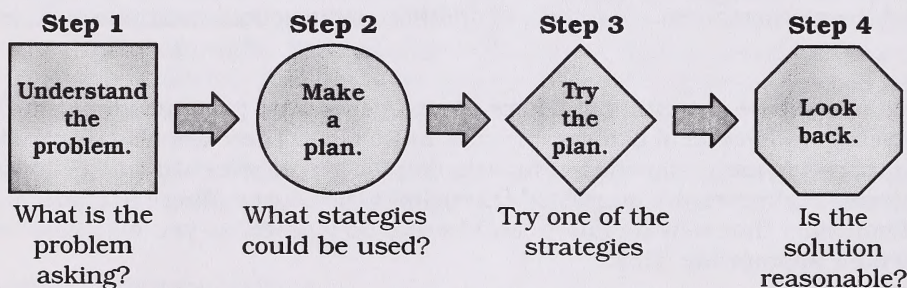
Students must be able to communicate mathematical ideas in writing. Journal writing activities will occasionally appear in the Assignment Booklet. This helps the student clarify mathematical understandings. It also offers the teacher an important insight into the student's thought process.

PROBLEM SOLVING

The ability to apply mathematical concepts to solve everyday problems is very important at all grade levels. Problem-solving activities allow the student to make use of skills that have been learned and to apply mathematical knowledge in a meaningful way. Problem-solving activities appear in each module.

The four problem-solving steps outlined below will be used to help your student work through the process.

Problem-Solving Steps



As your student works through the problem-solving steps, several strategies at Step 2 will be introduced. It is important that the student be allowed to experiment with different ways to solve a problem and to understand that there is not always one "right" way to solve it. The following strategies will be introduced:

- acting out the problem
- guessing and checking
- drawing a diagram
- making a chart
- looking for a pattern

EXTENSION ACTIVITIES

Extension Activities are provided to give your student extra practice or enrichment in a concept. These activities are optional. If you find your student is having difficulty with a certain concept, the extension activity may provide the extra help needed. Be sure to let the teacher know when the student is having difficulty; additional practice suggestions may be provided. *Challenge activities* present interesting problems for a student with a particular interest in that area.

HOME INSTRUCTOR MARGIN NOTES

Margin notes have been provided in the Student Module Booklet to help you introduce and discuss math concepts.

ICONS

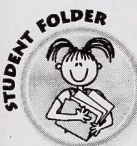
Several icons appear in the Student Module Booklet. These symbols provide a cue for your student to do something. Be sure that your student has a clear understanding of what each icon indicates.



Put something in or take something out of the Math Box.



Do an extension activity for fun or extra practice.



Put something in or take something out of the Student Folder.



Check Internet sites, computer games, or computer activities for fun or extra practice.



Go to the Assignment Booklet.



Use the Answer Key. The student will begin self-correcting activities in Module 6.

ASSESSMENT

Your student's progress will be evaluated using several assessment tools. The teacher needs to understand how your student thinks about mathematics and how well the concepts have been mastered. The teacher may use information from Assignment Booklet questions, journal entries, home instructor observations, and student self-evaluation checklists.

The teacher will provide written comments. These comments may help you focus on areas where your student needs extra practice or help. Discuss the teacher's comments with your student and help set improvement goals. The assessment for each module will be determined primarily by how well the student completes the assignments in the Assignment Booklet as well as the student and home instructor feedback.

At the end of the year your student is required to write the Grade Three Provincial Achievement Test. Since this may be your student's first exposure to a standardized exam, practice questions and test-taking tips will be included in the later modules of this program. The Provincial Achievement Test has two sections. The first section consists of timed tests for addition, subtraction, and multiplication facts. The second section contains multiple-choice questions. Some multiple-choice questions are provided throughout this course so your student becomes familiar with this format.

THE ROLE OF THE HOME INSTRUCTOR

As the home instructor, you play a crucial role in ensuring your student's success in this mathematics course. Important goals in math education are to prepare students to use math confidently and to appreciate and value mathematics. Your positive attitude toward mathematics will help your student build proficiency and confidence for continued life-long learning.

The following points list some ways you can help your student:

- Provide a quiet area where your student can work.
- Follow a regular schedule. Ensure that some math coursework is done each day.
- Gather and organize the necessary materials before each day's lessons begin.
- Make yourself available when the student is working on math. Many activities ask that the student share his or her thoughts or discuss topics with you. Read through the Home Instructor's Guide for each day and the margin notes before beginning the lesson, so you have a good understanding of the day's topic.

- When discussing math activities, try to find out what the student is thinking. Use questions such as
 - How did you get that answer?
 - What did you do first? second? third?
 - Can you explain your thinking?
 - Why did you do that?
 - How could you find out?
- Monitor the work done in the Student Module Booklet and Assignment Booklet. Ensure that the student reads and understands all the material presented and that each page is completed. It is important to take care not to do the work for the student. This can quickly damage a student's confidence in doing mathematics.
- Use manipulatives to help the student understand a concept. Students learn mathematics best when they work from the concrete to the abstract. Hands-on materials and pictures help students visualize the process. Manipulatives or diagrams may be used any time your student needs them, not just when they are included or suggested.
- Check the activities in the Student Module Booklet (Modules 1 to 5) promptly, and discuss the results with your student. When an answer is incorrect, help the student discover why and make the correction. Continue to monitor your student's answers in this way as the self-correcting activities begin (Modules 6 to 9).
- If the student is experiencing difficulty with a concept, review the sections of the module where that concept is covered. Extension activities may provide suggestions for additional practice in the concept. Challenge activities allow the student to expand on a concept.
- Be sure your student is able to read and understand the material. If your student has difficulty reading, you may have to assist.
- Send in assignments promptly as soon as an Assignment Booklet is completed. This allows prompt feedback from the teacher.
- Share your own ideas and ways of doing mathematics. There is often more than one way to solve a mathematical problem.

REQUIRED MATERIALS

Some of the materials that are required may be found around your home while others may need to be purchased. Remember that these are items your student will need for mathematics from grade one to grade six. You may have some or all of them already.

PURCHASED SUPPLIES

Manipulatives and calculators can be purchased through the Learning Resources Centre (L.R.C.) in Edmonton. If you live in Alberta, call the government toll-free number (310-0000) and then dial 427-5775. Orders may also be placed over the Internet at the following address:

<http://www.lrc.learning.gov.ab.ca>

These materials may also be available at retail or mail-order educational supply stores.

- | | |
|----------------------|---------------------------------------|
| • calculator | (required; the TI-108 is recommended) |
| • base ten blocks | (required) |
| • pattern blocks | (recommended) |
| • geometric solids | (recommended) |
| • interlocking cubes | (recommended) |
| • geoboard | (recommended) |

SUPPLIES FROM HOME

- small counters such as buttons and counters used in games
- beads, dried beans or pasta of various shapes, sizes, and colours (1000)
- coins and bills
- metre stick
- centimetre ruler
- metric measuring cups
- wooden craft sticks or stir sticks
- dice or blank cubes
- coloured blocks
- playing cards or blank cards
- cup
- milk container (1 litre)
- toothpicks

As the items that appear first in this list are for counting, be sure to have some of them available.

Cut-out learning aids will be provided in the Appendix of each module to supplement these concrete materials.

Assist your student in locating a suitable Math Box for storing these materials and a Student Folder to hold papers.

MODULE 1: ADDITION AND SUBTRACTION

Module 1 reviews many concepts that were introduced in earlier grades. The concepts reviewed in this module are crucial to the understanding of more complex calculations that will be introduced this year. If your student requires extra practice on number facts or regrouping, take the time to do it now.

Ways to check calculations are introduced to help students determine if answers are reasonable and accurate. If you notice the student's answer is incorrect, ask the student to check it using one of the methods introduced. Remind your student to think about the reasonableness of each answer and to use the estimation skills that have been discussed.

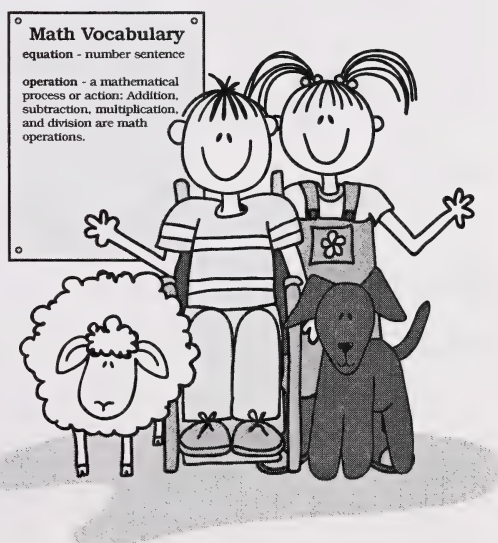
Your student is also introduced to a problem-solving model in this module. The student will use this model to solve problems throughout the year.

Encourage your student to use the skills that are presented in this module in real-life situations. When you go shopping, ask your student to figure out how much more one item is than another, how many items you could buy for a specific price, or how much change you should get. A trip to a restaurant can pose interesting problems—what items from the menu can your student choose if he or she has \$10 to spend? Have your student help you double recipes or plan how many items are needed for a special celebration. As students use calculations for practical purposes, they learn to value mathematics.

DAILY SUMMARY

Read each day's summary and familiarize yourself with the lessons before instructing the student.

DAY 1: Your student is introduced to two characters, Luke and Sarah, who will be used throughout the Grade Three Mathematics course. In this lesson, the student reviews the addition process and the symbols that are used to show it. Concrete objects and pictures are used to demonstrate addition.



The words operation and equation are introduced. You may want to begin a poster to help your student remember any math vocabulary. Write the word on the poster, and ask your student to supply a definition in his or her own words. You may wish to refer to the glossary in the Appendix for some definitions. The student may add additional words to the poster as they are encountered. Keep this poster in a visible location to serve as a reminder to your student.

DAY 1: LESSON 1

Answers

1. addition
2. 13
3. Sarah will have **13** rabbits to sell.
4. a. $7 + 3 = 10$ or $3 + 7 = 10$
 b. $8 + 4 = 12$ or $4 + 8 = 12$
 c. $6 + 5 = 11$ or $5 + 6 = 11$
5. a. 9
 The picture should show two groups with 5 in one and 4 in the other.
 b. 12
 The picture should show two groups with 3 in one and 9 in the other.
6. 14
 Sarah had **14** rabbits in all.
7. a. 13 b. 16 c. 16

DAY 1: LESSON 2

Answers

You must add to find out how many prizes Luke has.

DAY 1: LESSON 3

Answers

1. a. 7 b. 7 c. 8
2. a. 15 b. 18 c. 15 d. 10 e. 14 f. 13

DAY 2: Two strategies for recalling the addition facts to 18 are introduced. The student learns to count on from a number and to make tens. Concrete materials are used to help the student understand and visualize the addition process. The ultimate goal is for the student to use these strategies to add numbers mentally.

DAY 2: LESSON 1

Answers

- Sarah has **16** pennies.
- | | | | | | |
|-------|-------|-------|-------|-------|-------|
| a. 16 | b. 10 | c. 14 | d. 15 | e. 11 | f. 11 |
|-------|-------|-------|-------|-------|-------|
- | | | | |
|-------|-------|-------|-------|
| a. 14 | b. 12 | c. 12 | d. 11 |
|-------|-------|-------|-------|
- | | | | |
|-------|-------|-------|-------|
| a. 10 | b. 13 | c. 10 | d. 11 |
| e. 9 | f. 12 | g. 8 | h. 16 |

DAY 2: LESSON 2

Answers

- | | | | |
|------|------|------|------|
| 1. 6 | 2. 2 | 3. 7 | 4. 5 |
| 5. 0 | 6. 8 | 7. 1 | 8. 9 |

DAY 3: More strategies for addition to 18 are introduced. The student practises adding doubles and doubles +1 and doubles +2. Using groups of tens for addition sums between 10 and 18 is discussed as well. The student practises each strategy using manipulatives to aid in the visualization of the addition process. Timed, addition practice pages are explained and attempted in this module. In Module 2, your student will track the results of these timed exercises on a graph to see his or her growth. It is important the student understands that he or she may not be able to complete all the questions in the allotted time. With practice, the accuracy and completion rate should improve.

DAY 3: LESSON 1

Answers

- | | | |
|-------|-------|-------|
| a. 2 | b. 4 | c. 6 |
| d. 8 | e. 10 | f. 12 |
| g. 14 | h. 16 | i. 18 |
- | | |
|------------------------|------------------------------|
| a. 4 eggs | b. 500 mL pancake mix |
| c. 400 mL water | d. 500 mL bananas |

DAY 3: LESSON 2**Answers**

1. 6, 7
2. 12, 13
3. 18, 19
4. 14, 16
5. 16, 18

DAY 3: LESSON 3**Answers**

1. 14
2. a. 18 b. 15 c. 19
3. a. 12 b. 17 c. 13
4. a. 14 b. 18 c. 15
5. a. 12 b. 17 c. 11

Timed Exercise Answers:

$\begin{array}{r} 3 \\ + 8 \\ \hline 11 \end{array}$	$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$	$\begin{array}{r} 5 \\ + 4 \\ \hline 9 \end{array}$	$\begin{array}{r} 4 \\ + 6 \\ \hline 10 \end{array}$
--	--	---	--

$\begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array}$	$\begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array}$	$\begin{array}{r} 1 \\ + 8 \\ \hline 9 \end{array}$	$\begin{array}{r} 9 \\ + 3 \\ \hline 12 \end{array}$
--	--	---	--

$5 + 6 = 11 \quad 8 + 8 = 16 \quad 4 + 6 = 10 \quad 2 + 7 = 9$

$8 + 5 = 13 \quad 7 + 6 = 13 \quad 3 + 6 = 9 \quad 7 + 7 = 14$

$9 + 1 = 10 \quad 4 + 7 = 11 \quad 9 + 9 = 18 \quad 7 + 3 = 10$

DAY 4: A four-step problem-solving model is taught in this lesson. Each step is discussed and applied to an everyday situation and to math problems. The student also has a chance to create and write a problem.

DAY 4: LESSON 1

Answers

Sarah's problem is that the jeans she wants to wear are not clean.

1. a. Sarah must figure out how long she and her dad will wait to get on the ride.
b. Sarah has to find out how many people can ride on the Ferris wheel at one time, how long each ride takes, and how many people are ahead of them in line.
2. a. The problem is to find out how many goats there are altogether.
b. The student needs to add the two groups of goats together.
c. $8 + 7 = 15$
d. There were 15 goats in all.

DAY 4: LESSON 2

Answers

The problem should be written in complete sentences, give all the necessary information, and pose a question that you must solve. Have fun working together.

DAY 5: The two applications of subtraction are reviewed in this lesson. Subtraction is used to take away an amount from a total or to find out how many more are in one group than another. The student uses manipulatives and pictures to separate and compare groups. The use of symbols to show subtraction is also discussed.

DAY 5: LESSON 1

Answers

1. a. Sarah can subtract.
b. I have 8 objects left.
c. $16 - 8 = 8$
d. Sarah has 8 tickets left.
2. There are 4 more people on the basketball team.

3. a. $13 - 5 = 8$ or $13 - 8 = 5$
 b. $14 - 4 = 10$
 c. $11 - 3 = 8$ or $11 - 8 = 3$

4. a. $10 - 3 = 7$
 b. $12 - 7 = 5$

The pictures should show two groups being separated or compared. Check to see if the student has drawn the correct amount of objects in each case.

DAY 5: LESSON 2

Answers

1. a. 3 b. 2 c. 1
 2. a. 7 b. 7 c. 9 d. 5 e. 6 f. 9

DAY 6: Two strategies for solving subtraction equations are introduced. Counting back and using doubles are discussed. Some ideas for extension activities appear at the end of the day's activities. If your student needs extra practice to recall addition and subtraction facts, flash cards or games may be used.

DAY 6: LESSON 1

Answers

1. 9
 2. No
 3. a. 13 b. 9 c. 8
 4. a. 8 b. 12 c. 7 d. 6

DAY 6: LESSON 2

Answers

1. a. 7 b. 9 c. 6 d. 8 e. 5 f. 4
 2. In each case, the answer is the same as the number being subtracted. The same numerals are used in the related subtraction and addition facts.

Timed Exercise Answers:

$\begin{array}{r} 7 \\ + 8 \\ \hline 15 \end{array}$	$\begin{array}{r} 5 \\ + 5 \\ \hline 10 \end{array}$	$\begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array}$	$\begin{array}{r} 9 \\ + 6 \\ \hline 15 \end{array}$
--	--	--	--

$\begin{array}{r} 6 \\ + 4 \\ \hline 10 \end{array}$	$\begin{array}{r} 9 \\ + 2 \\ \hline 11 \end{array}$	$\begin{array}{r} 1 \\ + 9 \\ \hline 10 \end{array}$	$\begin{array}{r} 8 \\ + 3 \\ \hline 11 \end{array}$
--	--	--	--

$5 + 7 = 12 \quad 8 + 4 = 12 \quad 4 + 4 = 8 \quad 2 + 8 = 10$

$4 + 5 = 9 \quad 8 + 6 = 14 \quad 3 + 9 = 12 \quad 7 + 6 = 13$

$9 + 9 = 18 \quad 4 + 9 = 13 \quad 9 + 5 = 13 \quad 3 + 3 = 6$

DAY 7: The relationship between addition and subtraction is discussed. The student is shown how to use this relationship to help recall subtraction facts.

DAY 7: LESSON 1**Answers**

- There are 9 pennies left.
 - Sarah spent **9** cents on candy.
- $7 + \underline{\quad} = 15$
 - There are 8 pennies left.
 - The pencil cost **8** cents.
- 10
 - 6
 - 7

DAY 7: LESSON 2**Answers**

- 15
 - 15
 - 7
 - 8
- 12
 - 12
 - 9
 - 3

3. Answers may appear in either order.

b. $15 - 6 = 9$ $15 - 9 = 6$

d. $12 - 5 = 7$ $12 - 7 = 5$

f. $14 - 9 = 5$ $14 - 5 = 9$

c. $11 - 8 = 3$ $11 - 3 = 8$

e. $11 - 9 = 2$ $11 - 2 = 9$

g. $16 - 9 = 7$ $16 - 7 = 9$

DAY 8: The four problem-solving steps are used to solve subtraction problems. The student studies problems that have missing information or have more than one calculation. The student is led to realize that common sense counts in math. The student must be prepared to use logical thinking to solve problems and not just rely on key words or look at the numbers in the problem.

DAY 8: LESSON 1

Answers

- Some words that indicate subtraction are *difference*, *left*, *fewer*, *run away*, *go away*, *take away*, and *less*.
- The student needs to find out how many days the team can tour with their families.
- The problem can be solved by subtracting.
 - Yes, there is missing information.
 - The student needs to know that two weeks is the same as 14 days.
- $14 - 6 = 8$
 - The team can tour for 8 days.
- The student should indicate that the answer is reasonable.

DAY 8: LESSON 2

Answers

- The student must find out how many vehicles will not fit in the display case.
- The student will have to add and then subtract.
 - The student has to add the cars and trucks to find the total number of vehicles.
 - The student must subtract the 10 spaces in the case from the total number of vehicles.
- $9 + 8 = 17$ $17 - 10 = 7$
 - There are 7 vehicles that will not fit in Gino's display case.
- The student should indicate that the answer is reasonable.

DAY 9: As technology is used more and more to do mathematical calculations, it becomes increasingly necessary for students to learn to verify or check answers to make sure they are reasonable. In this lesson the student uses the opposite operation to verify answers. The use of calculators to check answers is also discussed.

DAY 9: LESSON 1

Answers

1. b. $7 + 9 = 16$ The answer is **correct**.
 c. $5 + 8 = 13$ The answer is **incorrect**.
 d. $4 + 6 = 10$ The answer is **incorrect**.
 e. $8 + 2 = 10$ The answer is **correct**.
 f. $8 + 8 = 16$ The answer is **incorrect**.
2. b. $13 - 5 = 8$ The answer is **incorrect**.
 c. $12 - 8 = 4$ The answer is **correct**.
 d. $12 - 9 = 3$ The answer is **correct**.
 e. $14 - 7 = 7$ The answer is **incorrect**.
 f. $15 - 9 = 6$ The answer is **incorrect**.

DAY 9: LESSON 2

Answers

1. 104
2. No
3. a. $9 + 7 + 8 + 3 + 6 + 5 + 7 = 47$ **X**
 b. $96 + 25 + 73 + 89 + 24 = 307$ **✓**
 c. $289 + 654 = 940$ **X**
 d. $345 + 567 + 789 = 801$ **✓**

When all of the activities for Day 9 are finished, have your student complete the Student Checklist in the Assignment Booklet. Go over the responses and discuss them with the student.

Then complete the Home Instructor's Checklist. Include any information you think may be helpful for the teacher to know.

Submit Assignment Booklet 1A for marking.

ASSIGNMENT BOOKLET 1A

Grade Three Mathematics
Module 1: Days 1–9

Home Instructor's Comments and Questions

Home Instructor's Signature

FOR SCHOOL USE ONLY

Assigned Teacher:

Date Assignment Received:

Grading:

Additional Information:

FOR HOME INSTRUCTOR USE (if label is missing or incorrect)

Student File Number:

Date Submitted:

Apply Module Label Here

Name

Address

Postal Code

*Please verify that preprinted label is for
correct course and module.*

Teacher's Comments

Teacher's Signature

Home Instructor: Keep this sheet when it is returned to you as a record of the student's progress.

INSTRUCTIONS FOR SENDING IN THIS DISTANCE LEARNING ASSIGNMENT BOOKLET

When you register for distance learning courses, you are expected to send in Assignment Booklets for corrections regularly. Try to send each Assignment Booklet as soon as you have completed it. Before sending your Assignment Booklet, please check the following:

- Are all the assignments completed? If not, explain why.
- Has your work been reread to be sure the spelling and details are correct?
- Is the record form filled out and the correct module label attached?

MAILING

1. Postage Regulations

Do **not** enclose letters with Assignment Booklets.

Send all letters in a separate envelope.

2. Postage Rates

Take your Assignment Booklet to the post office and have it weighed. Attach enough postage and seal the envelope. Assignment Booklets will travel faster if correct postage is used and if they are in large envelopes that are no more than two centimetres thick.

FAXING

1. Assignment Booklets may be faxed. Contact your teacher for the fax number.
2. All faxing costs are the responsibility of the sender.

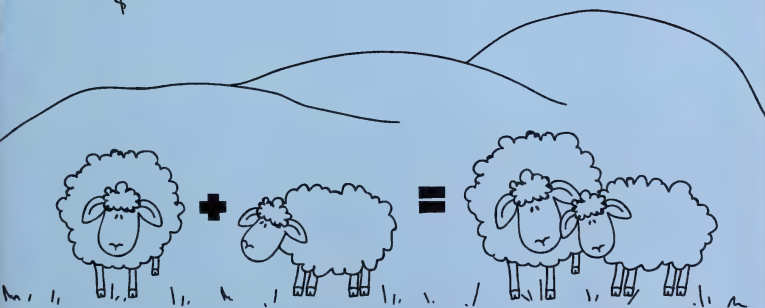
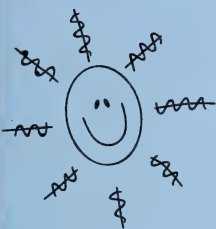
E-MAILING

Assignment Booklets may be e-mailed. Contact your teacher for the e-mail address.

GRADE THREE MATHEMATICS: MODULE 1

ADDITION AND SUBTRACTION

Assignment Booklet 1A



Learning
Technologies
Branch

Alberta
LEARNING

Grade Three Mathematics
Module 1: Addition and Subtraction
Assignment Booklet 1A
Learning Technologies Branch

This document is intended for	
Students	✓
Teachers	✓
Administrators	
Home Instructors	✓
General Public	
Other	



You may find the following Internet sites useful:

- Alberta Learning, <http://www.learning.gov.ab.ca>
- Learning Technologies Branch, <http://www.learning.gov.ab.ca/ltb>
- Learning Resources Centre, <http://www.lrc.learning.gov.ab.ca>

The use of the Internet is optional. Exploring the electronic information superhighway can be educational and entertaining. However, be aware that these computer networks are not censored. Students may unintentionally or purposely find articles on the Internet that may be offensive or inappropriate. As well, the sources of information are not always cited and the content may not be accurate. Therefore, students may wish to confirm facts with a second source.

ALL RIGHTS RESERVED

Copyright © 2002, the Crown in Right of Alberta, as represented by the Minister of Learning, Alberta Learning, 10155 – 102 Street, Edmonton, Alberta T5J 4L5. All rights reserved. Additional copies may be obtained from the Learning Resources Centre.

No part of this courseware may be reproduced in any form, including photocopying (unless otherwise indicated), without the written permission of Alberta Learning.

Every effort has been made both to provide proper acknowledgement of the original source and to comply with copyright law. If cases are identified where this effort has been unsuccessful, please notify Alberta Learning so that appropriate corrective action can be taken.

IT IS STRICTLY PROHIBITED TO COPY ANY PART OF THESE MATERIALS UNDER THE TERMS OF A LICENCE FROM A COLLECTIVE OR A LICENSING BODY.

1. Solve each number sentence. Then write down which strategy you used to solve it.

- drawing a picture
- using counters
- counting on
- using doubles
- using doubles +1 and doubles +2
- making tens
- remembering the answer

Solution

Strategy

a. $6 + 7 =$ _____

b. $9 + 5 =$ _____

c. $2 + 7 =$ _____

d. $8 + 8 =$ _____

e. $4 + 6 =$ _____

f. $3 + 9 =$ _____

g. $2 + 8 =$ _____

h. $10 + 9 =$ _____

i. $3 + 4 + 5 =$ _____

j. $2 + 5 + 7 =$ _____

2. Journal Entry

Which adding strategies do you use most often? Why?

3. Solve these equations using the strategies you have learned.

a.
$$\begin{array}{r} 5 \\ + 6 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 7 \\ + 9 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 3 \\ + 7 \\ \hline \end{array}$$

d.
$$\begin{array}{r} 8 \\ + 8 \\ \hline \end{array}$$

e. $9 + 5 = \underline{\hspace{2cm}}$

f. $4 + 4 = \underline{\hspace{2cm}}$

g. $7 + 8 = \underline{\hspace{2cm}}$

h. $2 + 9 = \underline{\hspace{2cm}}$

i. $6 + 3 + 5 = \underline{\hspace{2cm}}$

j. $5 + 4 + 2 = \underline{\hspace{2cm}}$

k. $1 + 3 + 8 = \underline{\hspace{2cm}}$

l. $2 + 7 + 4 = \underline{\hspace{2cm}}$

Use the four steps to solve the problems. Use the strategies that work best for you. Show your work.

1. Mai Lee found 9 smooth pebbles at the beach. On the way home, she found 6 more. How many pebbles does she have now?

Understand
the
problem.

- a. What do you have to find out? _____

Make
a
plan.

- b. How will you solve the problem? _____

Try
the
plan.

- c. Write an equation and solve it. _____

- d. Write your answer in a complete sentence. _____

Look
back.

- e. Does your answer make sense? _____

2. How many legs do 2 spiders have altogether?

**Understand
the
problem.**

a. What do you have to find out? _____

**Make
a
plan.**

b. How will you solve the problem? _____

c. What do you need to know to solve this problem? _____

**Try
the
plan.**

d. Write an equation and solve it. _____

e. Write your answer in a complete sentence. _____

**Look
back.**

f. Does your answer make sense? _____

Ask your home instructor to time you for 2 minutes. Solve as many questions as you can. Count how many you completed, and write that number in the space at the end of the exercise.

Timed exercise: 2 minutes

$1+9=$ $7+5=$ $9+9=$ $6+4=$

$8+4=$ $5+5=$ $7+9=$ $3+6=$

$5+3=$ $8+8=$ $6+5=$ $9+3=$

$$\begin{array}{r} 9 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ + 9 \\ \hline \end{array}$$

Number completed	
Number correct	

Solve each equation. Then write down which strategy you used to solve it.

- drawing a picture
- using counters
- counting back
- using doubles
- using fact family
- remembering the answer

Solution

Strategy

1. a. $12 - 4 =$ _____	_____
b. $15 - 7 =$ _____	_____
c. $18 - 8 =$ _____	_____
d. $13 - 5 =$ _____	_____
e. $14 - 7 =$ _____	_____
f. $16 - 9 =$ _____	_____
g. $17 - 3 =$ _____	_____
h. $15 - 9 =$ _____	_____
i. $18 - 9 =$ _____	_____

2. Journal Entry

Which subtracting strategies do you use most often? Why?

Use the four steps and the strategies that work best for you. Show your work.

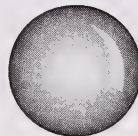
1.



+



-



=

?

James had a dime and a nickel. He bought a jawbreaker that costs 8 cents. How much does he have left?

Understand
the
problem.

a. What do you have to find out? _____

Make
a
plan.

b. How will you solve the problem? _____

c. What do you need to know to solve this problem? _____

Try
the
plan.

d. Write the equations and solve them. _____

e. Write your answer in a complete sentence. _____

Look
back.

f. Does your answer make sense? _____

2.

8 robins and 4 blue jays were at the bird feeder. A cat walked by and 6 birds flew away. How many birds were left?



**Understand
the
problem.**

a. What do you have to find out? _____

**Make
a
plan.**

b. How will you solve the problem? _____

**Try
the
plan.**

c. Write the equations and solve them. _____

d. Write your answer in a complete sentence. _____

**Look
back.**

e. Does your answer make sense? _____

3. Write two words or phrases that tell you to add in a problem.

4. Write two words or phrases that tell you to subtract.

5. Journal Entry

What do you find the most difficult about doing problem-solving questions? What is easiest for you?

Check the answers to these equations by subtracting. Show your work. Write **correct** or **incorrect**.

1. a. $9 + 8 = 16$ _____ The answer is _____.

b. $8 + 6 = 13$ _____ The answer is _____.

c. $7 + 6 = 12$ _____ The answer is _____.

d.
$$\begin{array}{r} 5 \\ + 9 \\ \hline 14 \end{array}$$
 _____ The answer is _____.

e.
$$\begin{array}{r} 9 \\ + 9 \\ \hline 17 \end{array}$$
 _____ The answer is _____.

2. Check the answers to these equations by adding. Show your work. Write **correct** or **incorrect**.

a. $15 - 6 = 8$ _____ The answer is _____.

b. $17 - 9 = 8$ _____ The answer is _____.

c. $14 - 7 = 7$ _____ The answer is _____.

d.
$$\begin{array}{r} 18 \\ - 9 \\ \hline 7 \end{array}$$
 _____ The answer is _____.

e.
$$\begin{array}{r} 16 \\ - 9 \\ \hline 9 \end{array}$$
 _____ The answer is _____.

3. Use the calculator to check the totals of the lists below. Write **correct** or **incorrect** on the lines.

Items for Club Garage Sale	
toys	12
cups	30
clothes	25
games	18
furniture	9
other	<u>37</u>
Total items	121

The total is _____.

Shop Inventory	
hammers	12
screwdrivers	35
wrenches	47
drills	5
grinders	7
pry bars	<u>11</u>
Total	117

The total is _____.

Ask your home instructor to time you for 2 minutes. Do as many questions as you can. Write how many you completed.

Timed exercise: 2 minutes

$5+5=$ $6+4=$ $4+5=$ $2+9=$

$7+5=$ $8+8=$ $3+6=$ $7+7=$

$9+6=$ $4+3=$ $9+3=$ $3+5=$

$$\begin{array}{r} 3 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ + 3 \\ \hline \end{array}$$

Number completed	
Number correct	

STUDENT'S CHECKLIST
MODULE 1: DAYS 1 TO 9

I can ...	Put a check mark beside the things you can do.
remember most of the addition facts to 18	
remember most of the subtraction facts to 18	
use different strategies to solve addition and subtraction equations	
use the inverse operation to check my answers	
use a calculator to check my answers	

STUDENT'S COMMENTS

Did you have difficulty with any of the activities in Days 1 to 9? Explain.

Some things I learned in this part of the module are

HOME INSTRUCTOR'S CHECKLIST

Check **yes** or **not yet** for each question.

Can the student do the following?

- | | | |
|---|------------------------------|----------------------------------|
| • use manipulatives and diagrams to show addition and subtraction | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • write equations to show addition and subtraction | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • use a variety of strategies to solve addition and subtraction equations | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • recall most of the addition facts to 18 | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • solve simple word problems | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • check calculations using the inverse operation | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • check calculations using a calculator | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |

HOME INSTRUCTOR'S COMMENTS
